



# NBS PUBLICATIONS NEWSLETTER

U.S. DEPARTMENT OF COMMERCE

National Bureau of Standards

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No. 22

With this issue, NBS resumes its Publications Newsletter after a  $1\frac{1}{2}$ -year hiatus. By the way, your letters and inquiries are indeed noted. They have, for example, indicated that many of you found these selected short summaries useful enough to warrant resumption of this newsletter.

## NBS PUBLICATIONS DURING 1971

For those who want the WHOLE THING, we're glad to announce that, coincident with this issue, NBS Special Publication 305, Supplement 3 is being released for sale. This rather dry designator identifies our annual catalog titled "Publications of the NBS, 1971".\*

We start off by mentioning this item because, by acquiring it, you'll have all the reference information (especially abstracts) needed by your clients and yourself to make a judgment on whether or not a specific NBS publication can be helpful to you. Try it; you will like it. Supplement 3 covers all NBS-authored papers released for publication during calendar year 1971. It includes abstracts, key words, sales sources, and price information; and it has a quick-use tab-type index on the back cover. Also supplied is information on how you can purchase catalogs covering previously-issued NBS publications.

## A METRIC AMERICA BY THE '80s?

One very important milestone at NBS during 1971 was completion of the 3-year metric study authorized by Congress in 1968 and carried out by NBS and the American people. We say "the American people" advisedly, because every major segment of American society participated in this effort to determine whether the United States should "go metric". The study report comprises 13 volumes: 12 are detailed substudies of specific areas, and one, "A Metric America", is the final report with conclusions and recommendations. Announcements for all 13 volumes, with price and ordering information, are part of this newsletter issue.

## *In This Issue ---*

"Publications of the NBS, 1971", cataloged  
"A Metric America", report of a 3-year study  
"Facts About Hearing and Hearing Aids", and "Care of Books, Documents, Prints  
and Films", for the consumer  
A listing of some recent NBS publications



## CONSUMER INFORMATION

Also of general interest were two new publications issued in the NBS Consumer Information Series during 1971. "Facts About Hearing and Hearing Aids"\* presents facts about hearing, what you should do if you suspect a hearing loss, and answers to common questions about hearing aids. "Care of Books, Documents, Prints and Films"\* tells, in layman's language, what to do - and equally important, what not to do--to preserve the documents, photographs, books and similar mementos so personally important to us.

Publications previously issued in the CIS series, and available for sale from the Superintendent of Documents, include "Fibers and Fabrics"\*, "Tires - Their Selection and Care"\*, and "Adhesives for Everyday Use".\*

We're pleased at the response we've had to this comparatively new NBS publications series. From time to time new publications covering additional consumer areas of interest will be issued.

### NBS PUBLICATIONS DURING 1972

As a "sampler" of recent material, this issue includes a listing of NBS publications released during or shortly prior to May 1972. We plan to include such a listing with each future newsletter.

Veteran readers of the Publications Newsletter will note some changes in format. We believe that the listing of some recent publications, together with selected announcements, will be useful. May we have your comments and suggestions? Address them to:

John Rochford  
Publications Newsletter  
Office of Technical Information and Publications  
National Bureau of Standards, Washington, D.C. 20234

\*The NBS publications listed below may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Cite publication title and catalog or stock number in your order. Enclose full payment by check or money order made out to the Superintendent of Documents; add one-quarter of sales price for delivery outside United States.

NBS Special Publication 305 Supplement 3: "Publications of the National Bureau of Standards, 1971". Price: \$3.00. Stock No. 0303-1014.

NBS Consumer Information Series 4: "Facts About Hearing and Hearing Aids". Price 60 cents. Stock No. 0303-0920.

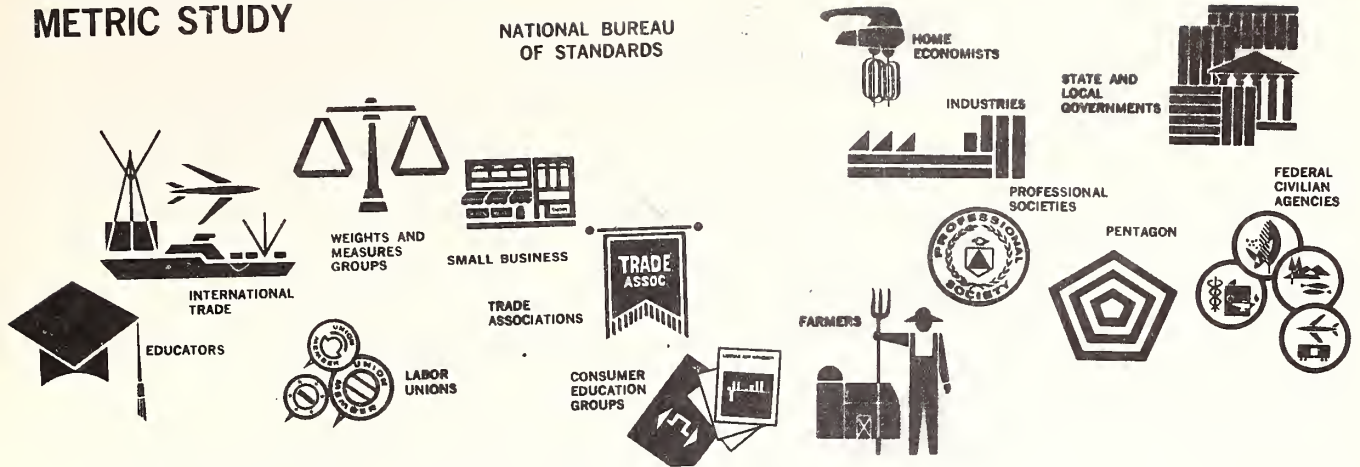
NBS Consumer Information Series 5: "Care of Books, Documents, Prints and Films". Price 45 cents. Catalog No. C13.53:5.

NBS Consumer Information Series 1: "Fibers and Fabrics". Price 65 cents. Catalog No. C13.53:1.

NBS Consumer Information Series 2: "Tires - Their Selection and Care". Price 65 cents. Catalog No. C13.53:2.

NBS Consumer Information Series 3: "Adhesives for Everyday Use". Price 40 cents. Catalog No. C13.53:3.

# SOME GROUPS THAT PARTICIPATED IN THE METRIC STUDY



**A METRIC AMERICA: A Decision Whose Time Has Come**

A Report to Congress on the U.S. Metric Study, by Daniel V. DeSimone National Bureau of Standards Special Publication 345, issued July 1971, 192 pages, \$2.25; SD Catalog No. C13.10:345.

**THE MANUFACTURING INDUSTRY**, An Interim Report of the U.S. Metric Study, by Morris H. Hansen (Westat Research, Inc.), A. G. McNish and Louis E. Barbrow, NBS Spec. Publ. 345-4, issued July 1971, 172 pages, \$1.25; SD Catalog No. C13.10:345-4.

**NONMANUFACTURING BUSINESSES**, An Interim Report of the U.S. Metric Study by Elaine D. Buntin and June R. Cornog, NBS Spec. Publ. 345-5, issued July 1971, 200 pages, \$1.50, SD Catalog No. C13.10:345-5.

**EDUCATION**, An Interim Report of the U.S. Metric Study, by Beroł L. Robinson (Education Development Center), NBS Spec. Publ. 345-6, issued July 1971, 216 pages; \$1.75; SD Catalog No. C13.10:345-6.

**THE CONSUMER**, An Interim Report of the U.S. Metric Study, Bruce D. Rothrock, editor, NBS Spec. Publ. 345-7, issued July 1971, 152 pages, \$1.25; SD Catalog No. C13.10:345-7.

**INTERNATIONAL TRADE**, An Interim Report of the U.S. Metric Study, by Gerald F. Gordon (Bureau of Domestic Commerce), NBS Spec. Publ. 345-8, issued July 1971, 188 pages; \$1.50; SD Catalog No. C13.10:345-8.

**ENGINEERING STANDARDS**, An Interim Report of the U.S. Metric Study, by Robert D. Stiehler, NBS Spec. Publ. 345-11, issued July 1971, 264 pages; \$2.00; SD Catalog No. C13.10:345-11.

**INTERNATIONAL STANDARDS**, An Interim Report of the U.S. Metric Study, by Robert D. Huntoon et al, NBS Spec. Publ. 345-1, issued December 1970, 157 pages; \$1.25; SD Catalog No. C13.10:345-1.

**DEPARTMENT OF DEFENSE**, An Interim Report of the U.S. Metric Study, by Leighton Lomas, et al, (Department of Defense) NBS Spec. Publ. 345-9, issued June 1971, 132 pages; \$1.25; SD Catalog No. C13.10:345-9.

**FEDERAL GOVERNMENT: CIVILIAN AGENCIES**, An Interim Report of the U.S. Metric Study, by Roy E. Clark and John M. Tascher, NBS Spec. Publ. 345-2, issued July 1971, 324 pages; \$2.25; SD Catalog No. C13.10:345-2.

**COMMERCIAL WEIGHTS AND MEASURES**, An Interim Report of the U.S. Metric Study, by Stephen L. Hatos, NBS Spec. Publ. 345-3, issued July 1971, 110 pages; \$1.00; SD Catalog No. C13.10:345-3.

**A HISTORY OF THE METRIC CONTROVERSY IN THE UNITED STATES**, An Interim Report of the U.S. Metric Study, by Charles F. Treat, NBS Spec. Publ. 345-10, August 1971, 308 pages; \$2.25; SD Catalog No. C13.10:345-10.

**TESTIMONY OF NATIONALLY REPRESENTATIVE GROUPS**, An Interim Report of the U.S. Metric Study, by Jeffrey B. Odom, Editor, NBS Spec. Publ. 345-12, July 1971, 180 pages; \$1.50; SD Catalog No. C13.10:345-12.

(The above-listed reports are discussed separately on the following pages.)

NBS SP 345: A METRIC AMERICA

A decision whose time has come

Daniel V. De Simone, Director, U.S. Metric Study

This is the final report of the U. S. Metric Study which Congress in 1968 asked the Secretary of Commerce to undertake and which he assigned to the National Bureau of Standards. Concerned by the fact that the metric system is now the official measurement system of the overwhelming majority of the globe's inhabitants, the only exceptions being United States and a few small countries, Congress wanted answers to questions like the following:

\*What effect is the worldwide swing to metric having on the U.S.?

What does it mean to our international relations and balance of trade? How does it affect Americans in every walk of life?

\*Would it be desirable for the U.S. to use the metric system more widely than it does? Should this be done deliberately in a coordinated way? Or should the nation take no action to promote the use of metric weights and measures?

\*Or, as another possibility, should the U. S. try to persuade the rest of the world to make more use of the Customary system?

And what can be said about the benefits and costs of deliberately changing to metric in comparison with doing nothing at all?

On the basis of the findings and conclusions of the Study, the Secretary was asked to make "such recommendations as he considers to be appropriate and in the best interest of the United States."

In the overall planning of the Study the primary goal was to give every sector of society an opportunity to express its views with respect to these questions. Representatives of business, labor, trade associations, consumers, educators, and the professions answered thousands of questionnaires, engaged in thousands of personal interviews, and participated in a series of hearings that were widely publicized in advance. In addition, interviews with a representative sample of American households tried to find out how much the general public knew about the metric system.

Considering the great diversity of the participants, it is perhaps surprising that any general pattern of agreement should have emerged. Nevertheless there was a clear consensus on three basic conclusions, namely, that

- . Increased use of the metric system is in the best interests of the United States.

- . The nation should change to the metric system through a coordinated national program
- . The transition period should be ten years, at the end of which the nation would be predominantly metric.

These statements also express the main recommendation of the Study; they have been endorsed by the Secretary of Commerce and he has proposed to the Congress steps to implement them.

The report on the Study, "A Metric America", prepared by the Director of the Study, D. V. De Simone, distills the testimony and argumentation which is to be found in the eleven supplementary publications ("Interim Reports") described below. Included in the same series of publications (and described below) is NBS Spec. Publ. 345-1: International Standards, which deals with a subject closely related to and growing out of the Metric Study, but which is actually an independent report to Congress and has been separately endorsed by the Secretary of Commerce.

The rest of this description of the final report will consist of brief characterizations of its various chapters, starting with Chapter I, Perspective, which defines the nature of the task, its scope, and the general approach adopted.

Chapter II, Two Centuries of Debate, sketches the history of controversies in the United States relating to the system of weights and measures. It also traces the development of the metric system from its inception in France during the French Revolution to its present "modernized" form, officially known as the International System of Units (abbreviated: SI).

Chapter III, Measurement Systems, explains the inherent logic of the metric system, sets forth the merits of the Customary system, describes briefly some less well known systems. It also tells how "metric beachheads" have been established and are growing in our midst, and it describes the "pot-pourri" of metric and customary units with which many of us have to operate.

Chapter IV, Arguments that have been made for Metric and for Customary, describes the arguments that are heard on both sides today. These are presented mainly to exhibit the range and diversity of viewpoints that are possible. The report notes that its own conclusions are based, not on unsupported arguments, but on

the evidence marshalled in surveys and public hearings.

Chapter V, *Going Metric: What Would it Really Mean?*, attempts to dispel some misapprehensions as to what general adoption of the metric system would entail. Distinguishing between "software" and "hardware" changes, it explains how use of the metric units will gradually acquire increased familiarity and momentum; and why certain older measurement terms will persist despite a change to metric. Here, also, the important topic of engineering standards is introduced for the first time.

Chapter VI, *The Metric Question in the Context of the Future World*, discusses the subtle relations between measurement units and engineering standards, and how metrication could affect the quality of goods generally as well as the quantities that this country can sell abroad. Attention is called to the growth of multinational corporations, many controlled by Americans; which is increasing the pressure for a uniform worldwide system of measurement.

Chapter VII, *Going Metric: The Broad Consensus*, is a survey of opinions on the metric question from major sectors of our society, based on the surveys conducted by this Study. Sectors given special attention: Manufacturing industry, nonmanufacturing businesses, education, government, (Department of Defense and Civil Agencies).

Chapter VIII, *Recommendation and Problems Needing Early Attention*, states the main recommendation of the Study that this country "change to the International Metric System through a coordinated national program over a period of ten years, at the end of which the nation will be predominantly metric." And it outlines some first steps that would need to be taken to bring this about.

Chapter IX, *Benefits and Costs*, is a summary of estimates and evaluations obtained from various participants in the study. The discussion is organized according to the same group of sectors of society as was used in Chapter VII.

Chapter X, *Two Paths to Metric: Britain and Japan*, considers the recent experience of these two major industrial nations in changing to the metric system. Although neither would serve as an exact model for the U. S., there are lessons to be learned. The chapter identifies and sets forth these lessons.

NBS SP345-4: The Manufacturing Industry  
by Morris H. Hansen (Westat Research, Inc.),  
A. G. McNish and Louis E. Barbrow

This major substudy of the U. S. Metric Study evaluates the impact of increasing metric usage on U. S. manufacturing industry, based on inputs supplied by over 2000 firms. The report deals with past, present, and expected future use of the metric system, the advantages and disadvantages thereof, and the views of the firms with regard to future U. S. policy, in particular whether the country should undertake some sort of national program to encourage more widespread use of metric weights and measures. A separate survey of over 100 selected firms obtained detailed information on the estimated cost impact of a national metrication effort.

The important findings of the substudy are that about 10 percent of U. S. manufacturing companies make some use of metric measurements and that such use is increasing; that although attitudes are mixed as to whether increased use of the metric system in their own industry would be beneficial, the companies preponderantly (70 percent) feel that increase metric use would be in the best interest of the United States; and finally, under the assumption that increased metric usage is found to be officially encouraged in the U. S., 93 percent of the companies favored a planned program of metrication (50 percent a voluntary plan, 43 percent a mandatory plan) and only 7 percent favored an uncoordinated approach.

NBS SP345-5: Nonmanufacturing Businesses  
by Elaine D. Buntin, et al

Information for this survey of the reactions of nonmanufacturing businesses to increasing usage of the metric system and its possible national adoption was obtained from extended telephone interviews with key persons (who had been notified in advance) in about 2600 business firms and nonprofit organizations. The report sums up its findings in 18 points, a few of which are indicated briefly below.

About 86 percent of the total sample favor a planned national program of conversion if metrication is found to be in the best interests of the U. S. About 62 percent of the total sample favored a national program of conversion based on legislation. Large corporations tended to be more favorable to such a metrication policy, but more than 80 percent of each size class favored a planned program. The retraining of labor was seen as the chief obstacle to conversion. Respondents with personal knowledge of metric measurement anticipated fewer problems and lower costs in retraining company employees than did respondents with little or no knowledge of metric. Six percent declared their intention to begin using or to increase their use of metric measurements within the next year or so; the stated reasons were chiefly to "improve the quality" of their output, ease international commerce, or meet foreign competition. Servicing of foreign produced metric items is the worst problem associated with their purchase; the same difficulty, said the distributive industries, affects U.S. non-metric goods in foreign markets.

NBS SP345-6: Education

by Berol L. Robinson (Education Development Center)

The educational sector, as this report shows, is more nearly unanimous than any other in its endorsement of the metric system. The aim here is to present the educational advantages and disadvantages of both metric and customary systems; to determine the current usage of metric measurements in schools and trends in that usage; to find how education would have to change as the U. S. accommodates to increased worldwide use of the metric system, under a planned national program or without such a program, and to estimate the costs of the changes; and to recommend ways in which to take best advantage of the changes.

Among a dozen or so major conclusions we note the following: If the U. S. "goes metric" our chief educational needs will be for new instructional materials, some retraining of teachers already serving, and replacement and modification of some instructional material. A minimum time scale is dictated by textbook replacement patterns: most school districts replace textbooks about every 5 years; and publishers need about 3 years lead time for preparing new materials. A 10-year conversion period, with a national coordinating body to guide publishers and school boards, should enable us to replace most textbooks (and library books and encyclopedias) at essentially no added cost over normal operations either to school districts or to text-book publishers.

NBS SP345-7: The Consumer

by Bruce D. Rothrock, Editor

To determine the attitudes of Americans toward the metric system and their knowledge of it, the U. S. Metric Study commissioned the Survey Research Center of the University of Michigan to survey a representative sample of American households; a summary of this survey makes up the first part of this interim report. In addition, it presents some papers on selected areas of consumer interest prepared by various individuals and organizations.

The survey disclosed that a majority of consumers know very little about the metric system (only 40 percent of the individuals surveyed could name even one metric unit), but that the more they knew about the metric system the more they favored it. The experts submitting papers are agreed that successful conversion to the metric system would require a comprehensive program of public education. Consumers in general believe that after the change-over is completed, the advantages will outweigh the costs and inconveniences of the transition. Metrication is also visualized as an opportunity, perhaps an incentive, to introduce improved standards for clothing sizes, simplification of package and can sizes, elimination of confusing practices in consumer product information, and possible standardization at the international level.



NBS SP 345-8: International Trade  
by Gerald F. Gordon (Bureau of Domestic Commerce)

This supplement to the U. S. Metric Study report presents data for evaluating the effects that a U. S. conversion to the metric system may have on the nation's foreign trade, based on a survey of exporters and importers of products in which dimensions are critical, a category that includes tractors, clinical thermometers, vacuum pumps, typewriters, and computers. The firms surveyed were asked to rank the factors that influence sale or purchase of these products in international trade, and to estimate how much they would expect to export or import in 1975 if the U. S. had gone metric in 1970. In regard to the latter, it was estimated that 1975 exports would be up by \$600 million if the country had converted in 1970. This and other results are tabulated and summarized here by the Department of Commerce's Bureau of Domestic Commerce.

The report falls into four parts which, in turn, summarize the Study's findings in 25 short paragraphs; outline the role of the U. S. in world trade and discuss current problems connected with our Balance of Payments and the need to generate a larger trade surplus; evaluate the potential impact of metrication on U. S. foreign trade, analyzing the results of the Bureau of Domestic Commerce survey of U. S. exporters and importers; and discuss the potential impact of metrication on selected industries. There is one appendix on the objectives and methodology of the study and another consisting of relevant statistical tables.

NBS SP345-11: Engineering Standards  
by Robert D. Stiehler

This report is based on a survey of the four categories of international engineering standards: dimensional, quality, descriptive, and methods of test. A key finding is that incompatibility between international standards and our national standards exists to about the same extent in quality and descriptive standards as in dimension standards; which suggests that it is engineering practice, in the development of which measurement units play an important role, rather than the measurement units themselves that determines compatibility or incompatibility of most standards. In general the results of the survey point up the need for active U. S. participation in the drafting of international recommendations so that they reflect U. S. practice. In cases where compatibility involves metrication and therefore a change in U. S. engineering standards, advantage should be taken of the opportunity to redesign the products involved so as to conserve raw materials, improve quality, and reduce costs.

The report states that although it is still possible to retain and promote U. S. standards without a change in our measurement units, it is becoming more and more difficult to do so; promotion of U. S. standards internationally is facilitated when the standards permit easy use in metric countries, a fact whose recognition is reflected in increasing use of metric measurement units in U. S. standards.

NBS SP345-1: International Standards  
by Dr. Robert D. Huntoon, et al

In his letter of transmittal, NBS Director L. M. Branscomb notes that this interim report was prepared "as an offshoot of our inquiry into the issues of metrication." It deals with the probable effects on international trade not only of increased use of the metric system but, even more importantly, of greater U. S. participation in international standardization activities, especially in the development of product performance standards. It argues that suitable policies in these areas can lead to a very considerable improvement in the U. S. trade position. Without spelling out details of implementation, it urges greater attention to the possibility of Federal leadership in encouraging increased support by U. S. industry for international standardization, the desirability of substantial Federal assistance to our private sector standardizing institutions, and other alternatives that might emerge from a thorough review of this question with such institutions and other interested parties. Secretary of Commerce Maurice H. Stans indicates his agreement with the report's recommendations and invites the consideration and views of the Congress and the public. Over half of the publication consists of appendixes, including further discussion of international standards, the general plan for the Metric Study, and a large sampling of the many different questionnaires employed in obtaining information for the Metric Study as a whole. (Further details on this publication are given in the NBS Technical News Bulletin for March 1971, pages 69-70.)

NBS SP345-9: Department of Defense  
by Leighton Thomas, et al (Department of Defense)

This report evaluates the probable impact of converting to the metric system of measurement on the operational capability of the Department of Defense and summarizes the advantages and disadvantages incident to such conversion. The DoD recognizes that any decision to go metric is a national one and does not take a position either for or against conversion. The rate of conversion within DoD would depend upon the rate of conversion in industry. The advantages expected of metrication are long-range in nature; they include the day-to-day use of an inherently simpler system and the compatibility of U. S. and foreign equipment, both of which would enhance combined military operations and simplify logistic support requirements. The disadvantages of metrication, including a substantial cost, are almost entirely short-range in nature and would be encountered almost entirely during the transition period: they include psychological resistance to change, the need for extensive retraining of personnel, increase of operational hazards, the creation of "mixed" (dual-measurement) systems, and the maintenance of dual inventories. If conversion becomes national policy, the DoD calls attention to the need for a national schedule for metrication.

NBS SP345-2: Federal Government: Civilian Agencies  
by Roy E. Clark and John M. Tascher

All agencies of the Federal Government that could be significantly affected by a metric changeover participated in the U. S. Metric Study. This report brings together and records the views of 55 civilian agencies (the Department of Defense is covered in NBS SP345-9) on the basic questions raised by the Metric Study Act. The report gives the agencies' evaluations of the impact of a metric shift on their own internal operations and on national activities (transportation, communication, etc.) over which the agencies have responsibility, and also on the ability of these agencies to perform their missions with respect to these "areas of national responsibility." Based on "best guess" estimates, the survey found that costs would be much less than one percent of the total annual budget of the agencies reporting. The survey found widespread feeling that a coordinated national effort to increase the use of SI measurement units and engineering standards in the U. S. is desirable, and also substantial expectation of increasing problems in the Federal Establishment if the current drift towards metric continues. The Small Business Administration is especially concerned that small businesses are being left behind.

NBS SP345-3: Commercial Weights and Measures  
by Stephen L. Hatos

The purpose of this sub-report of the U. S. Metric Study is to (1) identify and describe the impacts (cost, time, etc.) of modifying selected commercial weighing and measuring devices to record and/or indicate in metric units and (2) analyze the problems that increased metric usage would impose on state and local weights and measures jurisdictions (e.g., laws and regulations, testing equipment, and training programs). Included here are the presentations of views of scale manufacturers, and of weights and measures engineers and inspectors, the report of the National Conference on Weights and Measures' Task Force on Metrication, summaries of relevant statistics, and texts of present legislation dealing with weights and measures, including packaging and labeling. In the event that the U. S. decides to convert to the metric system for commercial weights and measures, recommendations are made concerning cut-off dates for use of customary units and the nature of the changes required in the text of the laws. Labels would be required to give both metric and customary units during a transition period; after that, inclusion of the customary units on labels would be optional.

NBS SP345-10: A History of the Metric System Controversy in  
the United States  
by Charles F. Treat

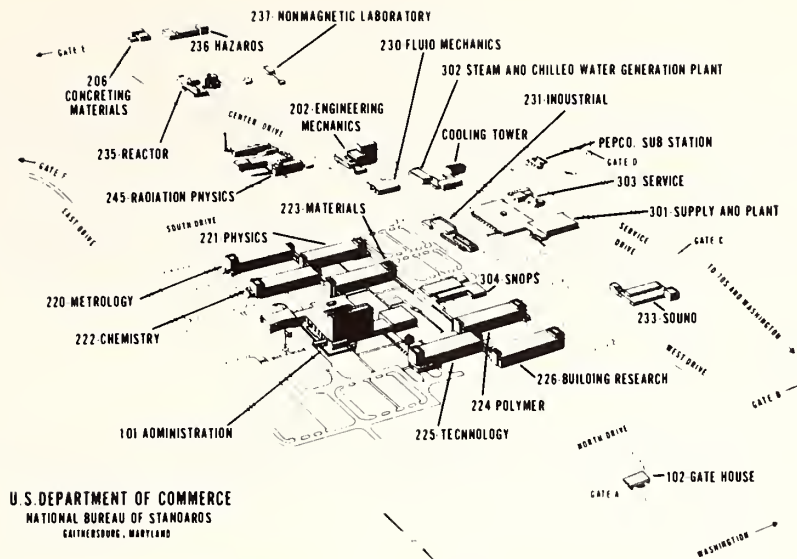
This segment of the U. S. Metric Study has two objectives: to document earlier actions affecting weights and measures used in the United States and to chronicle previous investigations into the feasibility and desirability of increasing U. S. use of the metric system of weights and measures. Creation of the metric system in France and the beginning of serious deliberations in the United States with regard to fixing a standard of weights and measures occurred in the same year -- 1790. Since then, the question of whether the U. S. should accede to the worldwide trend toward use of the metric system or give legal sanctity to our customary system of English origin has been debated on many occasions but has never been answered decisively. In the process, however, many alternative actions were proposed and deliberated upon, a few decisions having permanent significance were made, and on several occasions sharply contested controversies lent the subject of weights and measures a quite unaccustomed glamor.

Particular attention is paid here to the many activities of the legislative branch (about 100 legislative proposals, a dozen congressional committee hearings, two dozen committee reports, among other sources) relevant to this subject and to various campaigns that from time to time were waged either for or against adoption of the system. The main contentions advanced by both sides to the debate are presented. Throughout, the issue is treated as a social, political, and economic problem rather than as a scientific or technological one, and special pains are taken to show the relationship of other contemporary issues to the question of whether or not the U. S. should increase its use of the metric system.

NBS SP345 12: Testimony of Nationally Representative Groups  
by Jeffrey V. Odom, Editor

To provide an opportunity for widespread participation in the U. S. Metric Study and to supplement the information collected by the specialized surveys and investigations for the U. S. Metric Study, over 700 major national groups (trade associations, labor unions, professional societies, among others) were invited to submit their opinions and cost-benefit estimates concerning a possible future conversion to the metric system. Many groups responded, representing 674,000 firms and 19,600,000 individuals. Their testimony is summarized in the present report, along with supplementary inputs from experts in consumer activities and education.

Advantages of the metric system most often cited include that it is easy to learn, remember, and understand; that a changeover would create the opportunity for design improvement and elimination of needless sizes and types of products; that it would lead to wider markets for export products, worldwide interchangeability, and a wider choice range among imports. Transition problems appear significant mainly where metrication requires extensive modification of manufacturing equipment; where additional stocks of materials and spare parts would be needed; and in consumer education. About 50% of the groups stated that a change to the metric system is inevitable and/or desirable; about 45% indicated it would not matter to their activities whether we change our measurement system or not; and 5% felt that it is not inevitable and oppose a change.



**ANNOUNCEMENT OF RECENT PUBLICATIONS  
MAY 1972**

As a quick-reference aid to editors, librarians, and book reviewers, the National Bureau of Standards provides this monthly listing of its latest publications and recent articles by its staff in non-NBS publications. Short descriptions of NBS nonperiodicals are available upon request from the Office of Technical Information and Publications, National Bureau of Standards, Washington, D. C. 20234.

**NBS PUBLICATIONS  
Periodicals**

Technical News Bulletin, Volume 56, No. 5, May 1972 (\$3.00 per year, 30 cents per copy). Order by SD Catalog No. C13.13:56/5.

- Absolute Measurement of Viscosity
- New Standard Helps Fight Mercury Pollution
- Report on the San Fernando Earthquake
- Measuring Dynamic Loads in a Fatigue Machine
- Dynamic Pressure Transducer Calibrator
- NSRDS News
- CCST News
- Metric America Bill Sent to Congress
- DeSimone Receives Civil Service League Award
- Computer Chief Wins Federal Woman's Award
- Soviet Metrology Team Visits NBS
- Preparing Ultrapure Reagents
- Changing Priorities in Today's Building Technology
- NBS Inaugurates Millimeter-Wave Calibration Service
- Publications of the National Bureau of Standards

Journal of Research of the National Bureau of Standards  
(Issued as Sections A,B,C)

Section A. Physics and Chemistry (6 issues, \$9.50 per year; single copy price varies; foreign, \$11.75) Order by SD Catalog No. C13.22/sec. A:76/4

Section B. Mathematical Sciences (Quarterly, \$5.00 per year; \$1.25 per copy, Foreign, \$6.25.) Order by SD Catalog No. C13.22/sec. B:75.

Section C. Engineering and Instrumentation (Quarterly, \$5.00 per year; \$1.25 per copy, foreign, \$6.25.) Order by SD Catalog No. C13.22/sec.C:75.

Section A. Physics and Chemistry  
Vol. 76A, No. 4 (July-August 1972)

The emf-temperature coefficient of "acid" standard cells of the saturated cadmium sulfate type from 15 to 40 °C. W. J. Hamer, A. Skapars, and B. F. Field.

Pulse radiolysis of neopentane in the gas phase. R. E. Rebert and P. Ausloos.

Anatomy and thermal history of laser self-focusing damage tracks in glass. W. Haller and J. H. Simmonds.

Normal emissivity of an isothermal, diffusely reflecting cylindrical cavity (with top) as a function of inside radius. W. B. Fussell.

Lattice vibrations of antiparallel chain sheet structures. B. M. Fanconi.

Publications of the National Bureau of Standards.

#### NBS Bibliographic Subscription Services

Cryogenic Data Center Current Awareness Service (Publications and Reports of Interest in Cryogenics). A literature survey issued weekly. Annual subscription: Domestic, \$15.00; Foreign, \$20.00.

Liquefied Natural Gas. A literature survey issued quarterly. Annual subscription: \$15.00.

Superconducting Devices and Materials. A literature survey issued quarterly. Annual subscription: \$15.00.

Send subscription orders and remittances for the preceding bibliographic services to the National Technical Information Service, Springfield, Virginia 22151.

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